

## Supplementary Tables

Supplementary table 1 Two groups of proteins full length

| Genotype                     | No. | Gene     | Folding rate | whole sequence |                 |       |                 |       |
|------------------------------|-----|----------|--------------|----------------|-----------------|-------|-----------------|-------|
|                              |     |          |              | Full length    | $\alpha$ -helix |       | $\beta$ -strand |       |
|                              |     |          |              |                | length          | %     | length          | %     |
| Unfavorable prognostic genes | 1   | PODNL1   | 34.2         | 512            | 71              | 13.87 | 64              | 12.50 |
|                              | 2   | SLC6A6   | -5.09        | 620            | 139             | 22.42 | 0               | 0.00  |
|                              | 3   | PTPRN    | 18.7         | 950            | 258             | 27.16 | 68              | 7.16  |
|                              | 4   | MT1H     | -119         | 61             | 6               | 9.84  | 10              | 16.39 |
|                              | 5   | RPL39L   | 36.7         | 51             | 25              | 49.02 | 10              | 19.61 |
|                              | 6   | EN2      | -1.9         | 333            | 70              | 21.02 | 0               | 0.00  |
|                              | 7   | FAM174A  | 12.5         | 190            | 54              | 28.42 | 0               | 0.00  |
|                              | 8   | ARMC10   | -1.91        | 308            | 211             | 68.51 | 0               | 0.00  |
|                              | 9   | LRRC61   | 8.62         | 259            | 117             | 45.17 | 27              | 10.42 |
|                              | 10  | DBNL     | 13.8         | 431            | 130             | 30.16 | 66              | 15.31 |
|                              | 11  | RPP25    | -5           | 199            | 34              | 17.09 | 43              | 21.61 |
|                              | 12  | MED10    | 31.1         | 135            | 105             | 77.78 | 0               | 0.00  |
|                              | 13  | WFDC2    | 14.6         | 124            | 34              | 27.42 | 2               | 1.61  |
|                              | 14  | ZBED6CL  | 14.5         | 236            | 186             | 78.81 | 3               | 1.27  |
|                              | 15  | TSPAN13  | 4.65         | 204            | 45              | 22.06 | 0               | 0.00  |
|                              | 16  | RABGEF1  | 8.9          | 491            | 286             | 58.25 | 0               | 0.00  |
|                              | 17  | HPCAL1   | -3.79        | 193            | 117             | 60.62 | 3               | 1.55  |
|                              | 18  | CEND1    | -33.8        | 149            | 3               | 2.01  | 2               | 1.34  |
|                              | 19  | KDELRL2  | -3.99        | 212            | 43              | 20.28 | 0               | 0.00  |
|                              | 20  | ADAM15   | -4.7         | 814            | 76              | 9.34  | 210             | 25.80 |
| Average                      |     |          | 0.95         | 323.6          | 100.5           | 31.06 | 25.4            | 7.85  |
| Genotype                     | No. | Gene     | Folding rate | whole sequence |                 |       |                 |       |
|                              |     |          |              | Full length    | $\alpha$ -helix |       | $\beta$ -strand |       |
|                              |     |          |              |                | length          | %     | length          | %     |
| Favorable prognostic genes   | 1   | SAMD13   | 12.3         | 122            | 70              | 57.38 | 0               | 0.00  |
|                              | 2   | MIER1    | 27.6         | 156            | 90              | 57.69 | 0               | 0.00  |
|                              | 3   | STARD7   | 8.86         | 295            | 73              | 24.75 | 93              | 31.53 |
|                              | 4   | RCOR3    | 4.19         | 436            | 154             | 35.32 | 3               | 0.69  |
|                              | 5   | SLC39A10 | 16.5         | 831            | 167             | 20.10 | 9               | 1.08  |
|                              | 6   | ZBTB6    | 3.57         | 424            | 108             | 25.47 | 50              | 11.79 |
|                              | 7   | RRAGB    | -8.09        | 346            | 121             | 34.97 | 92              | 26.59 |
|                              | 8   | ZNF420   | -14.6        | 688            | 86              | 12.50 | 183             | 26.60 |
|                              | 9   | ZFP1     | -3.59        | 352            | 4               | 1.14  | 147             | 41.76 |
|                              | 10  | TBL1XR1  | 15.6         | 514            | 56              | 10.89 | 223             | 43.39 |
|                              | 11  | ZNF639   | -3.97        | 485            | 19              | 3.92  | 153             | 31.55 |
|                              | 12  | ZNF253   | -0.757       | 499            | 26              | 5.21  | 165             | 33.07 |
|                              | 13  | SOX21    | 15.3         | 276            | 61              | 22.10 | 2               | 0.72  |
|                              | 14  | ETNPPL   | -6.72        | 499            | 211             | 42.28 | 81              | 16.23 |
|                              | 15  | MTHFD2   | 15.8         | 350            | 146             | 41.71 | 56              | 16.00 |
|                              | 16  | PATZ1    | 17.2         | 537            | 69              | 12.85 | 145             | 27.00 |
|                              | 17  | MARS2    | 18.1         | 593            | 303             | 51.10 | 36              | 6.07  |
|                              | 18  | ZNF821   | 27.1         | 370            | 116             | 31.35 | 43              | 11.62 |
|                              | 19  | ZNF322   | -21.2        | 402            | 11              | 2.74  | 168             | 41.79 |
|                              | 20  | NEUROD1  | 11           | 356            | 84              | 23.60 | 3               | 0.84  |
| Average                      |     |          | 6.71         | 426.55         | 98.75           | 23.15 | 82.6            | 19.36 |

Supplementary table 2 Unfavorable prognostic genes  $\alpha$ -helix and  $\beta$ -strand sectional length

| No.     | Gene    | Section I       |                 | Section II      |                 | Section III     |                 | Section IV      |                 |
|---------|---------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|         |         | $\alpha$ -helix | $\beta$ -strand | $\alpha$ -helix | $\beta$ -strand | $\alpha$ -helix | $\beta$ -strand | $\alpha$ -helix | $\beta$ -strand |
| 1       | PODNL1  | 23              | 11              | 14              | 18              | 21              | 15              | 13              | 20              |
| 2       | SLC6A6  | 28              | 0               | 32              | 0               | 44              | 0               | 35              | 0               |
| 3       | PTPRN   | 65              | 2               | 39              | 0               | 78              | 4               | 76              | 62              |
| 4       | MT1H    | 0               | 4               | 2               | 2               | 4               | 2               | 0               | 2               |
| 5       | RPL39L  | 8               | 0               | 7               | 0               | 0               | 10              | 10              | 0               |
| 6       | EN2     | 13              | 0               | 0               | 0               | 5               | 0               | 52              | 0               |
| 7       | FAM174A | 34              | 0               | 3               | 0               | 7               | 0               | 10              | 0               |
| 8       | ARMC10  | 42              | 0               | 59              | 0               | 61              | 0               | 49              | 0               |
| 9       | LRRC61  | 10              | 12              | 14              | 10              | 36              | 5               | 57              | 0               |
| 10      | DBNL    | 26              | 37              | 60              | 0               | 41              | 0               | 3               | 29              |
| 11      | RPP25   | 4               | 6               | 24              | 16              | 0               | 21              | 6               | 0               |
| 12      | MED10   | 23              | 0               | 27              | 0               | 28              | 0               | 27              | 0               |
| 13      | WFDC2   | 21              | 0               | 7               | 2               | 0               | 0               | 6               | 0               |
| 14      | ZBED6CL | 58              | 0               | 50              | 0               | 39              | 0               | 39              | 3               |
| 15      | TSPAN13 | 8               | 0               | 4               | 0               | 24              | 0               | 9               | 0               |
| 16      | RABGEF1 | 29              | 0               | 98              | 0               | 87              | 0               | 72              | 0               |
| 17      | HPCAL1  | 29              | 0               | 31              | 3               | 28              | 0               | 29              | 0               |
| 18      | CEND1   | 0               | 0               | 0               | 0               | 0               | 0               | 3               | 2               |
| 19      | KDELR2  | 13              | 0               | 10              | 0               | 9               | 0               | 11              | 0               |
| 20      | ADAM15  | 11              | 76              | 50              | 60              | 5               | 46              | 10              | 28              |
| Average |         | 22.25           | 7.4             | 26.55           | 5.55            | 25.85           | 5.15            | 25.85           | 7.3             |

Supplementary table 3 Unfavorable prognostic genes  $\alpha$ -helix% and  $\beta$ -strand% of sectional length

| No. | Gene    | Folding rate per sec | Section I         |                   | Section II        |                   | Section III       |                   | Section IV        |                   |
|-----|---------|----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|     |         |                      | $\alpha$ -helix % | $\beta$ -strand % | $\alpha$ -helix % | $\beta$ -strand % | $\alpha$ -helix % | $\beta$ -strand % | $\alpha$ -helix % | $\beta$ -strand % |
| 1   | PODNL1  | 34.20                | 17.97             | 8.59              | 10.94             | 14.06             | 16.41             | 11.72             | 10.16             | 15.63             |
| 2   | SLC6A6  | -5.09                | 18.06             | 0.00              | 20.65             | 0.00              | 28.39             | 0.00              | 22.58             | 0.00              |
| 3   | PTPRN   | 18.70                | 27.37             | 0.84              | 16.42             | 0.00              | 32.84             | 1.68              | 32.00             | 26.11             |
| 4   | MT1H    | -119.00              | 0.00              | 26.23             | 13.11             | 13.11             | 26.23             | 13.11             | 0.00              | 13.11             |
| 5   | RPL39L  | 36.70                | 62.75             | 0.00              | 54.90             | 0.00              | 0.00              | 78.43             | 78.43             | 0.00              |
| 6   | EN2     | -1.90                | 15.62             | 0.00              | 0.00              | 0.00              | 6.01              | 0.00              | 62.46             | 0.00              |
| 7   | FAM174A | 12.50                | 71.58             | 0.00              | 6.32              | 0.00              | 14.74             | 0.00              | 21.05             | 0.00              |
| 8   | ARMC10  | -1.91                | 54.55             | 0.00              | 76.62             | 0.00              | 79.22             | 0.00              | 63.64             | 0.00              |
| 9   | LRRC61  | 8.62                 | 15.44             | 18.53             | 21.62             | 15.44             | 55.60             | 7.72              | 88.03             | 0.00              |
| 10  | DBNL    | 13.80                | 24.13             | 34.34             | 55.68             | 0.00              | 38.05             | 0.00              | 2.78              | 26.91             |
| 11  | RPP25   | -5.00                | 8.04              | 12.06             | 48.24             | 32.16             | 0.00              | 42.21             | 12.06             | 0.00              |
| 12  | MED10   | 31.10                | 68.15             | 0.00              | 80.00             | 0.00              | 82.96             | 0.00              | 80.00             | 0.00              |
| 13  | WFDC2   | 14.60                | 67.74             | 0.00              | 22.58             | 6.45              | 0.00              | 0.00              | 19.35             | 0.00              |
| 14  | ZBED6CL | 14.50                | 98.31             | 0.00              | 84.75             | 0.00              | 66.10             | 0.00              | 66.10             | 5.08              |
| 15  | TSPAN13 | 4.65                 | 15.69             | 0.00              | 7.84              | 0.00              | 47.06             | 0.00              | 17.65             | 0.00              |
| 16  | RABGEF1 | 8.90                 | 23.63             | 0.00              | 79.84             | 0.00              | 70.88             | 0.00              | 58.66             | 0.00              |
| 17  | HPCAL1  | -3.79                | 60.10             | 0.00              | 64.25             | 6.22              | 58.03             | 0.00              | 60.10             | 0.00              |
| 18  | CEND1   | -33.80               | 0.00              | 0.00              | 0.00              | 0.00              | 0.00              | 0.00              | 8.05              | 5.37              |
| 19  | KDELR2  | -3.99                | 24.53             | 0.00              | 18.87             | 0.00              | 16.98             | 0.00              | 20.75             | 0.00              |
| 20  | ADAM15  | -4.70                | 5.41              | 37.35             | 24.57             | 29.48             | 2.46              | 22.60             | 4.91              | 13.76             |

Supplementary table 4 **Favorable prognostic genes  $\alpha$ -helix and  $\beta$ -strand sectional length**

| No.     | Gene     | Section I       |                 | Section II      |                 | Section III     |                 | Section IV      |                 |
|---------|----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|         |          | $\alpha$ -helix | $\beta$ -strand | $\alpha$ -helix | $\beta$ -strand | $\alpha$ -helix | $\beta$ -strand | $\alpha$ -helix | $\beta$ -strand |
| 1       | SAMD13   | 9               | 0               | 16              | 0               | 21              | 0               | 24              | 0               |
| 2       | MIER1    | 19              | 0               | 28              | 0               | 21              | 0               | 22              | 0               |
| 3       | STARD7   | 27              | 14              | 17              | 35              | 0               | 44              | 29              | 0               |
| 4       | RCOR3    | 20              | 3               | 75              | 0               | 33              | 0               | 26              | 0               |
| 5       | SLC39A10 | 67              | 6               | 44              | 0               | 17              | 0               | 39              | 3               |
| 6       | ZBTB6    | 51              | 23              | 13              | 0               | 15              | 13              | 29              | 14              |
| 7       | RRAGB    | 9               | 22              | 33              | 22              | 44              | 20              | 35              | 28              |
| 8       | ZNF420   | 17              | 37              | 33              | 36              | 14              | 53              | 22              | 57              |
| 9       | ZFP1     | 2               | 38              | 2               | 35              | 0               | 37              | 0               | 37              |
| 10      | TBL1XR1  | 56              | 16              | 0               | 58              | 0               | 77              | 0               | 72              |
| 11      | ZNF639   | 10              | 19              | 7               | 36              | 2               | 44              | 0               | 54              |
| 12      | ZNF253   | 22              | 27              | 0               | 44              | 4               | 43              | 0               | 51              |
| 13      | SOX21    | 49              | 0               | 2               | 2               | 2               | 0               | 8               | 0               |
| 14      | ETNPPL   | 52              | 25              | 49              | 22              | 45              | 24              | 65              | 10              |
| 15      | MTHFD2   | 43              | 17              | 33              | 11              | 32              | 16              | 38              | 12              |
| 16      | PATZ1    | 44              | 23              | 19              | 34              | 6               | 41              | 0               | 47              |
| 17      | MARS2    | 70              | 4               | 49              | 23              | 82              | 9               | 102             | 0               |
| 18      | ZNF821   | 8               | 8               | 9               | 20              | 48              | 5               | 51              | 10              |
| 19      | ZNF322   | 0               | 44              | 6               | 34              | 0               | 49              | 5               | 41              |
| 20      | NEUROD1  | 9               | 0               | 62              | 0               | 3               | 0               | 10              | 3               |
| Average |          | 29.2            | 16.3            | 24.85           | 20.6            | 19.45           | 23.75           | 25.25           | 21.95           |

Supplementary table 5 **Favorable prognostic genes  $\alpha$ -helix% and  $\beta$ -strand% of sectional length**

| No. | Gene     | Folding rate<br>Per sec | Section I         |                   | Section II        |                   | Section III       |                   | Section IV        |                   |
|-----|----------|-------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|     |          |                         | $\alpha$ -helix % | $\beta$ -strand % | $\alpha$ -helix % | $\beta$ -strand % | $\alpha$ -helix % | $\beta$ -strand % | $\alpha$ -helix % | $\beta$ -strand % |
| 1   | SAMD13   | 12.30                   | 29.51             | 0.00              | 52.46             | 0.00              | 68.85             | 0.00              | 78.69             | 0.00              |
| 2   | MIER1    | 27.60                   | 48.72             | 0.00              | 71.79             | 0.00              | 53.85             | 0.00              | 56.41             | 0.00              |
| 3   | STARD7   | 8.86                    | 36.61             | 18.98             | 23.05             | 47.46             | 0.00              | 59.66             | 39.32             | 0.00              |
| 4   | RCOR3    | 4.19                    | 18.35             | 2.75              | 68.81             | 0.00              | 30.28             | 0.00              | 23.85             | 0.00              |
| 5   | SLC39A10 | 16.50                   | 32.25             | 2.89              | 21.18             | 0.00              | 8.18              | 0.00              | 18.77             | 1.44              |
| 6   | ZBTB6    | 3.57                    | 48.11             | 21.70             | 12.26             | 0.00              | 14.15             | 12.26             | 27.36             | 13.21             |
| 7   | RRAGB    | -8.09                   | 10.40             | 25.43             | 38.15             | 25.43             | 50.87             | 23.12             | 40.46             | 32.37             |
| 8   | ZNF420   | -14.60                  | 9.88              | 21.51             | 19.19             | 20.93             | 8.14              | 30.81             | 12.79             | 33.14             |
| 9   | ZFP1     | -3.59                   | 2.27              | 43.18             | 2.27              | 39.77             | 0.00              | 42.05             | 0.00              | 42.05             |
| 10  | TBL1XR1  | 15.60                   | 43.58             | 12.45             | 0.00              | 45.14             | 0.00              | 59.92             | 0.00              | 56.03             |
| 11  | ZNF639   | -3.97                   | 8.25              | 15.67             | 5.77              | 29.69             | 1.65              | 36.29             | 0.00              | 44.54             |
| 12  | ZNF253   | -0.76                   | 17.64             | 21.64             | 0.00              | 35.27             | 3.21              | 34.47             | 0.00              | 40.88             |
| 13  | SOX21    | 15.30                   | 71.01             | 0.00              | 2.90              | 2.90              | 2.90              | 0.00              | 11.59             | 0.00              |
| 14  | ETNPPL   | -6.72                   | 41.68             | 20.04             | 39.28             | 17.64             | 36.07             | 19.24             | 52.10             | 8.02              |
| 15  | MTHFD2   | 15.80                   | 49.14             | 19.43             | 37.71             | 12.57             | 36.57             | 18.29             | 43.43             | 13.71             |
| 16  | PATZ1    | 17.20                   | 32.77             | 17.13             | 14.15             | 25.33             | 4.47              | 30.54             | 0.00              | 35.01             |
| 17  | MARS2    | 18.10                   | 47.22             | 2.70              | 33.05             | 15.51             | 55.31             | 6.07              | 68.80             | 0.00              |
| 18  | ZNF821   | 27.10                   | 8.65              | 8.65              | 9.73              | 21.62             | 51.89             | 5.41              | 55.14             | 10.81             |
| 19  | ZNF322   | -21.20                  | 0.00              | 43.78             | 5.97              | 33.83             | 0.00              | 48.76             | 4.98              | 40.80             |
| 20  | NEUROD1  | 11.00                   | 10.11             | 0.00              | 69.66             | 0.00              | 3.37              | 0.00              | 11.24             | 3.37              |

**Supplementary table 6 Two group length tests of Normality**

| Full length |             | Kolmogorov-Smirnov <sup>a</sup> |    |        | Shapiro-Wilk |    |       |
|-------------|-------------|---------------------------------|----|--------|--------------|----|-------|
|             |             | Statistic                       | df | Sig.   | Statistic    | df | Sig.  |
| lengths     | Unfavorable | 0.204                           | 20 | 0.028  | 0.860        | 20 | 0.008 |
|             | Favorable   | 0.114                           | 20 | 0.200* | 0.968        | 20 | 0.716 |

a. Lilliefors Significance Correction

\*. This is a lower bound of the true significance.

**Supplementary table 7 Two groups second structure contents length Tests of Normality**

| contents    |                    | Kolmogorov-Smirnov <sup>a</sup> |    |        | Shapiro-Wilk |    |       |
|-------------|--------------------|---------------------------------|----|--------|--------------|----|-------|
|             |                    | Statistic                       | df | Sig.   | Statistic    | df | Sig.  |
| grouplength | Un $\alpha$ -helix | 0.168                           | 20 | 0.139  | 0.904        | 20 | 0.049 |
|             | Un $\beta$ -strand | 0.321                           | 20 | 0.000  | 0.572        | 20 | 0.000 |
|             | Fa $\alpha$ -helix | 0.148                           | 20 | 0.200* | 0.915        | 20 | 0.079 |
|             | Fa $\beta$ -strand | 0.154                           | 20 | 0.200* | 0.899        | 20 | 0.040 |

**Supplementary table 8 Unfavorable group internal  $\alpha$ -helix length Tests of Normality**

| uahsections |    | Kolmogorov-Smirnov <sup>a</sup> |    |        | Shapiro-Wilk |    |       |
|-------------|----|---------------------------------|----|--------|--------------|----|-------|
|             |    | Statistic                       | df | Sig.   | Statistic    | df | Sig.  |
| Uahselength | S1 | 0.151                           | 20 | 0.200* | 0.914        | 20 | 0.075 |
|             | S2 | 0.184                           | 20 | 0.074  | 0.876        | 20 | 0.015 |
|             | S3 | 0.188                           | 20 | 0.061  | 0.871        | 20 | 0.012 |
|             | S4 | 0.253                           | 20 | 0.002  | 0.861        | 20 | 0.008 |

a. Lilliefors Significance Correction

\*. This is a lower bound of the true significance.

**Supplementary table 9 Unfavorable group internal  $\beta$ -strand length Tests of Normality**

| ubsections  |    | Kolmogorov-Smirnov <sup>a</sup> |    |       | Shapiro-Wilk |    |       |
|-------------|----|---------------------------------|----|-------|--------------|----|-------|
|             |    | Statistic                       | df | Sig.  | Statistic    | df | Sig.  |
| Ubsselength | S1 | 0.343                           | 20 | 0.000 | 0.475        | 20 | 0.000 |
|             | S2 | 0.373                           | 20 | 0.000 | 0.464        | 20 | 0.000 |
|             | S3 | 0.327                           | 20 | 0.000 | 0.542        | 20 | 0.000 |
|             | S4 | 0.406                           | 20 | 0.000 | 0.539        | 20 | 0.000 |

a. Lilliefors Significance Correction

**Supplementary table 10 Favorable group internal  $\alpha$ -helix length Tests of Normality**

| fahsections |    | Kolmogorov-Smirnov <sup>a</sup> |    |        | Shapiro-Wilk |    |       |
|-------------|----|---------------------------------|----|--------|--------------|----|-------|
|             |    | Statistic                       | df | Sig.   | Statistic    | df | Sig.  |
| Fahlenghts  | S1 | 0.175                           | 20 | 0.108  | 0.905        | 20 | 0.051 |
|             | S2 | 0.155                           | 20 | 0.200* | 0.915        | 20 | 0.080 |
|             | S3 | 0.188                           | 20 | 0.061  | 0.836        | 20 | 0.003 |
|             | S4 | 0.165                           | 20 | 0.158  | 0.855        | 20 | 0.007 |

a. Lilliefors Significance Correction

\*. This is a lower bound of the true significance.

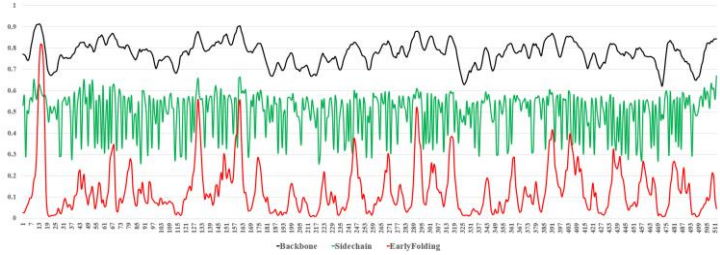
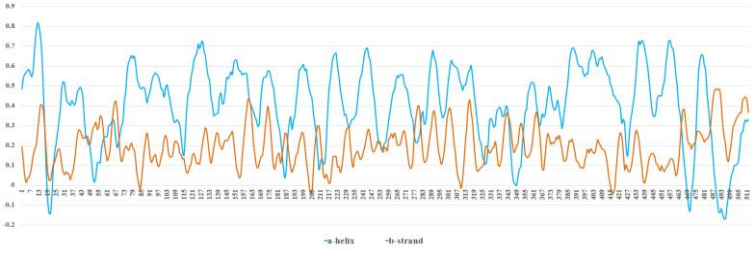
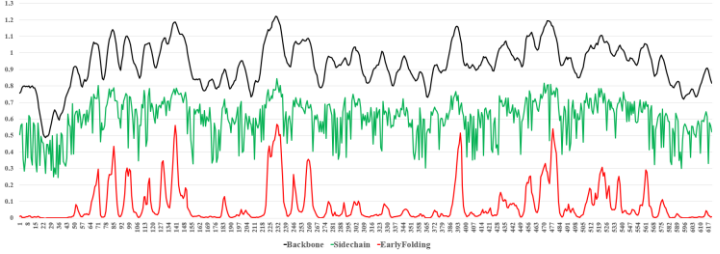
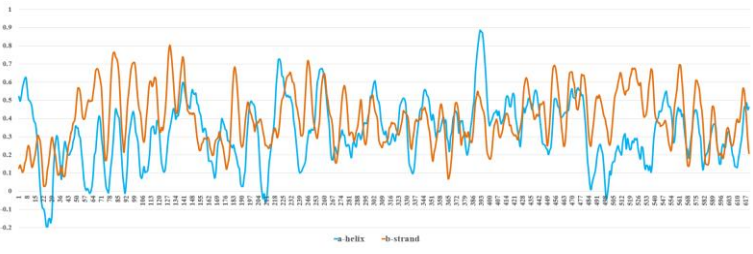
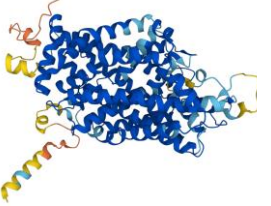
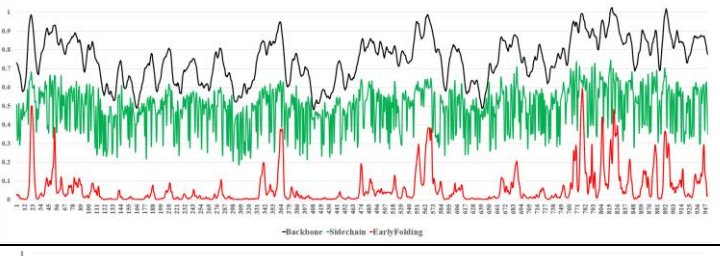
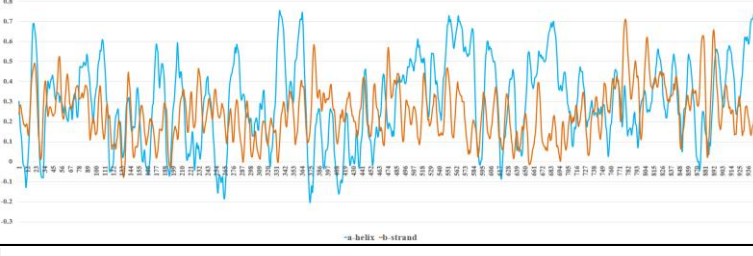
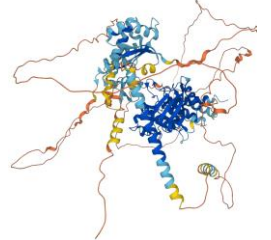
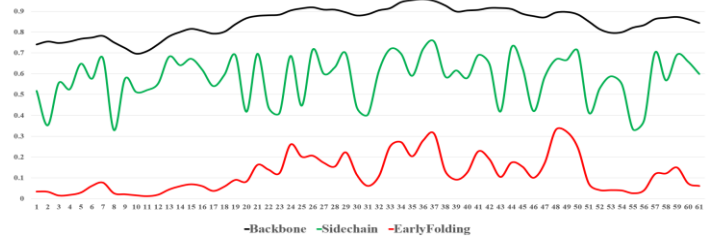
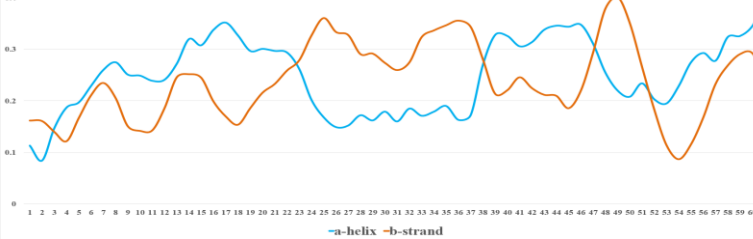
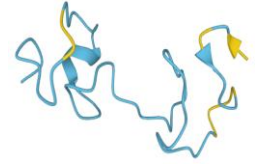
Supplementary table 11 Favorable group internal  $\beta$ -strand length **Tests of Normality**

|            | Fbsections | Kolmogorov-Smirnov <sup>a</sup> |    |        | Shapiro-Wilk |    |       |
|------------|------------|---------------------------------|----|--------|--------------|----|-------|
|            |            | Statistic                       | df | Sig.   | Statistic    | df | Sig.  |
| fbslengths | S1         | 0.128                           | 20 | 0.200* | 0.924        | 20 | 0.118 |
|            | S2         | 0.199                           | 20 | 0.038  | 0.883        | 20 | 0.020 |
|            | S3         | 0.152                           | 20 | 0.200* | 0.882        | 20 | 0.019 |
|            | S4         | 0.230                           | 20 | 0.007  | 0.839        | 20 | 0.003 |

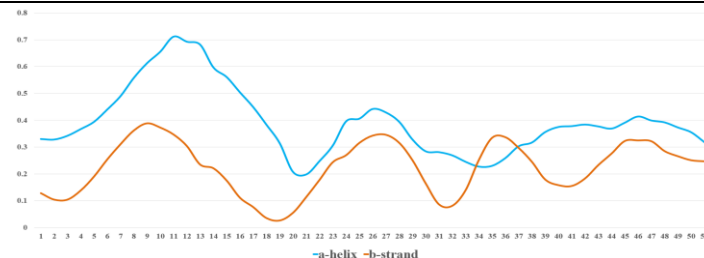
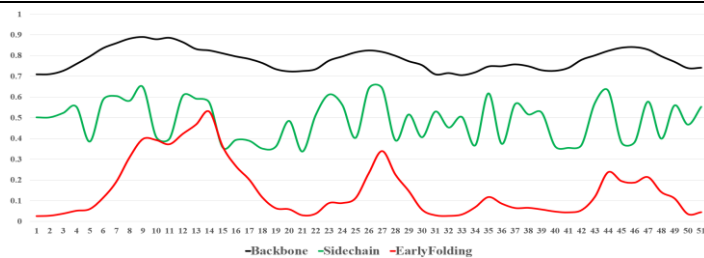
a. Lilliefors Significance Correction

\*. This is a lower bound of the true significance.

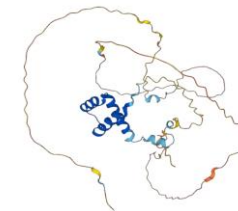
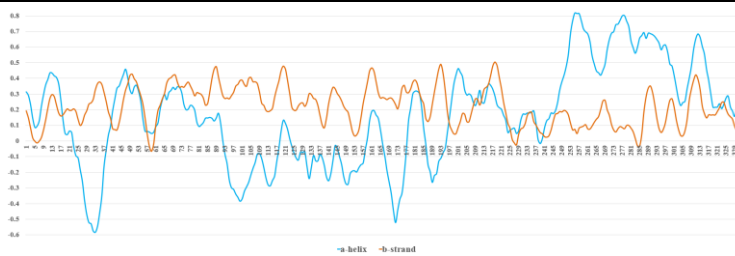
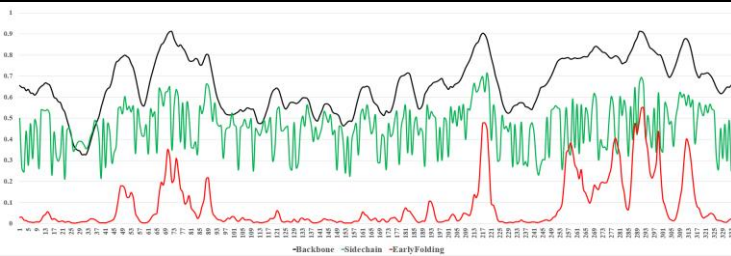
# Supplementary table 12 Unfavorable group Proteins folding dynamic curves and 3D structures

| No. | Name   | Early, backbone, sidechain trends                                                    | $\alpha$ -helix and $\beta$ -strand trends                                            | 3D structure                                                                          |
|-----|--------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1   | PODNL1 |    |    |    |
| 2   | SLC6A6 |    |    |    |
| 3   | PTPRN  |   |   |   |
| 4   | MT1H   |  |  |  |

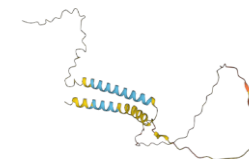
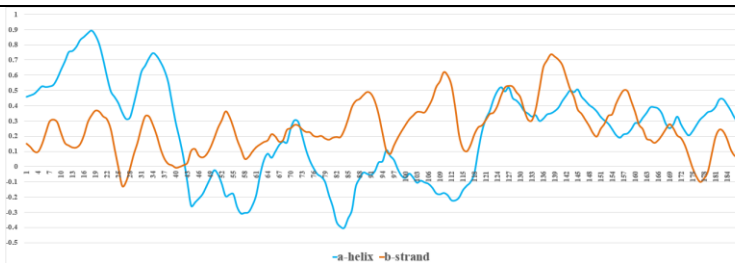
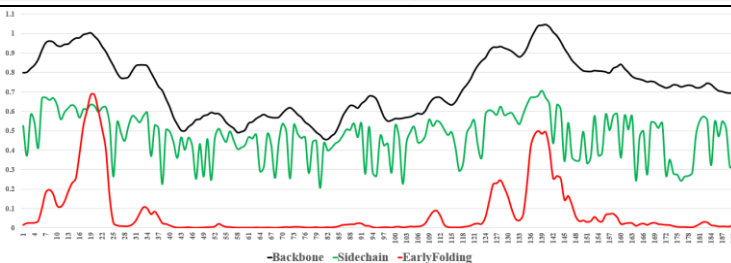
5 RPL39L



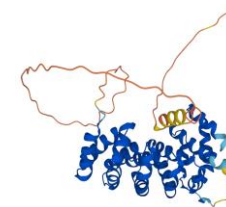
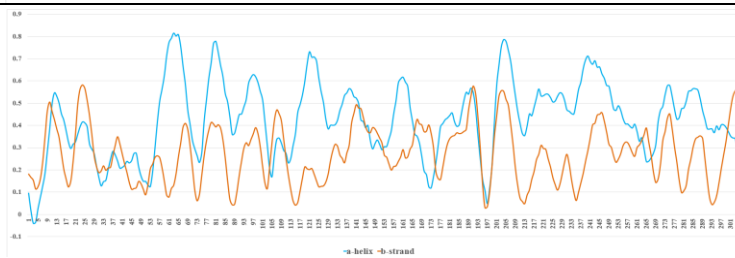
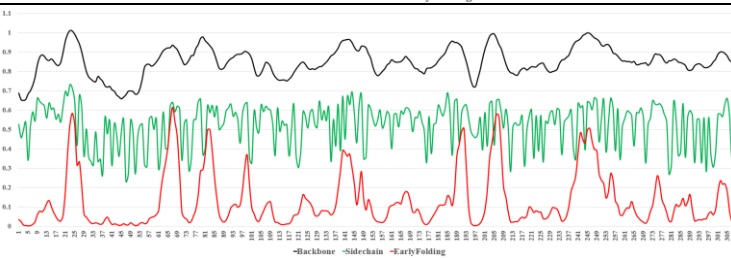
6 EN2



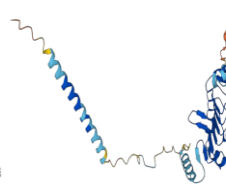
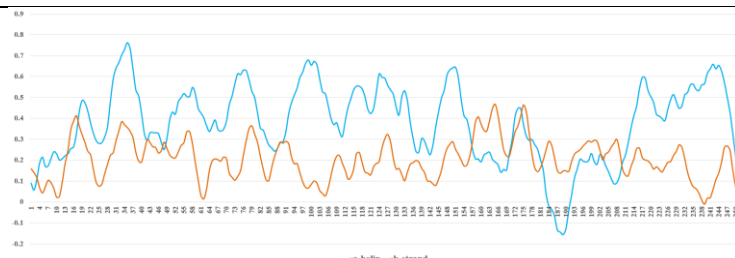
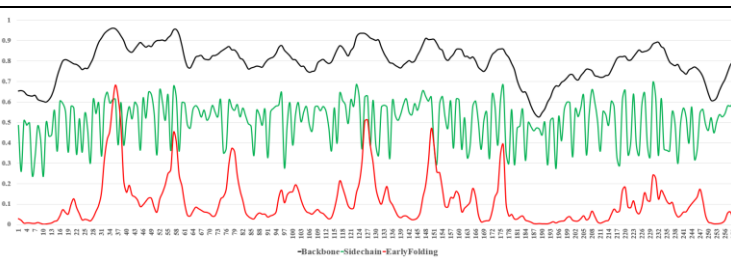
7 FAM174A



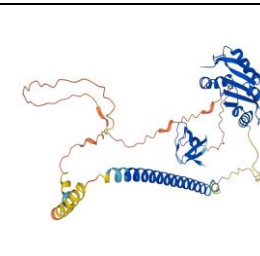
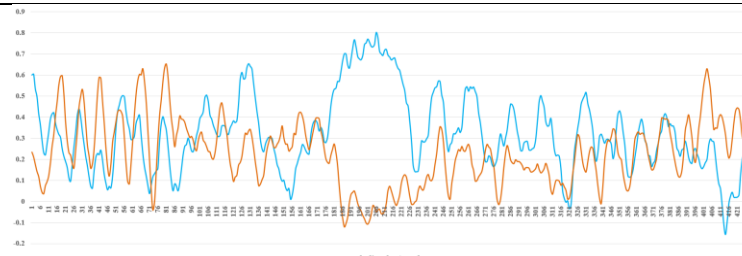
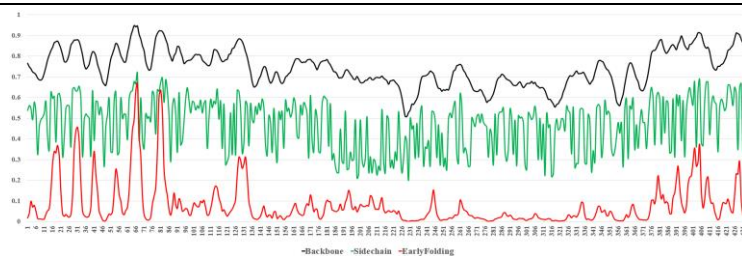
8 ARMC10



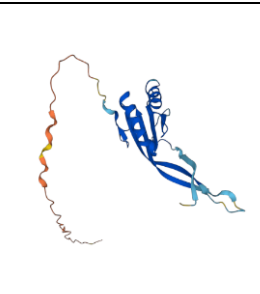
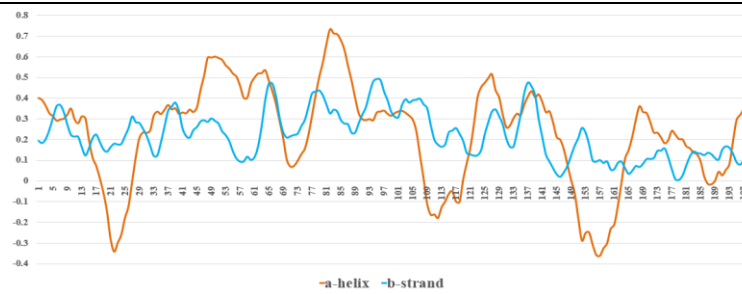
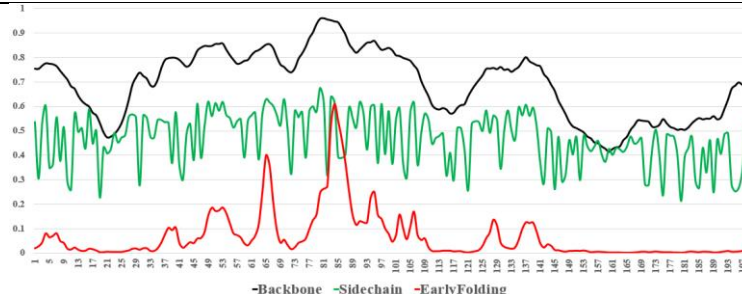
9 LRRC61



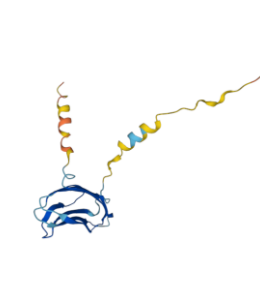
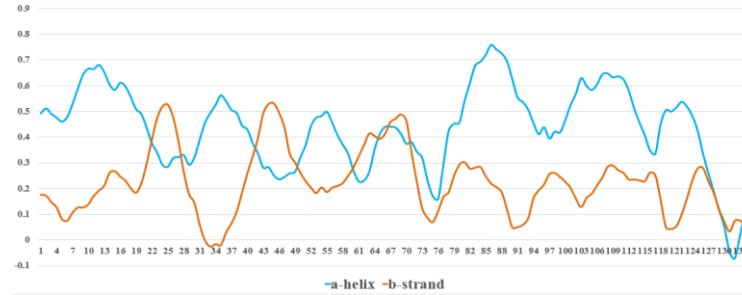
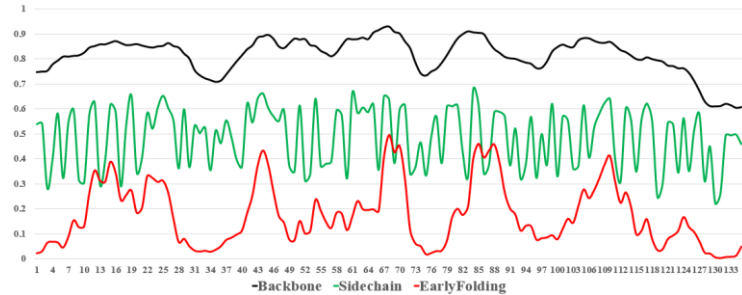
10 DBNL



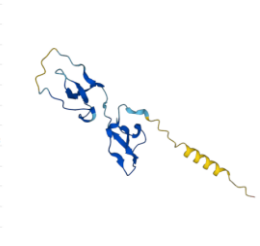
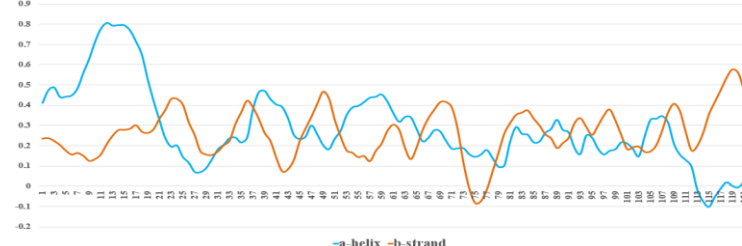
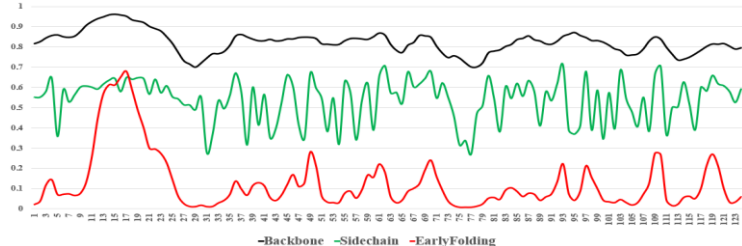
11 RPP25



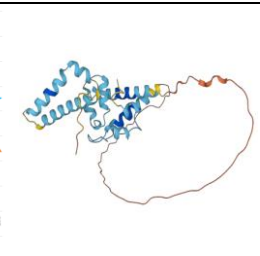
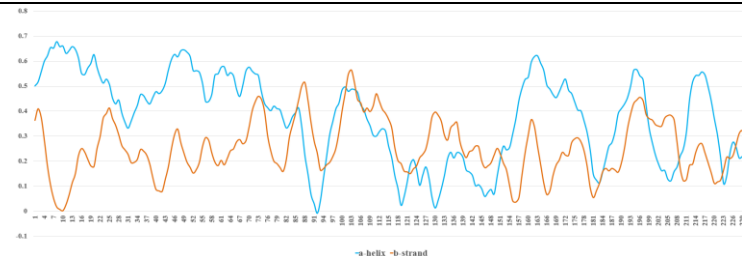
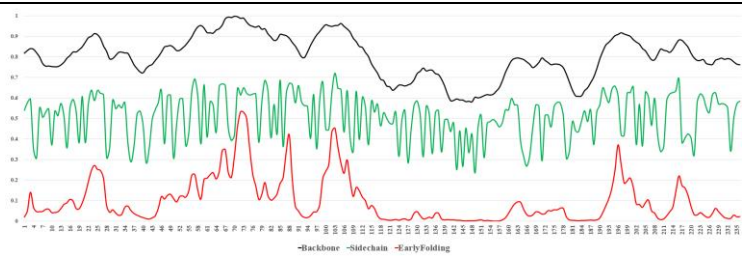
12 MED10



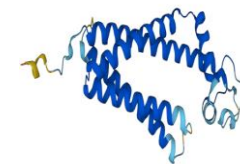
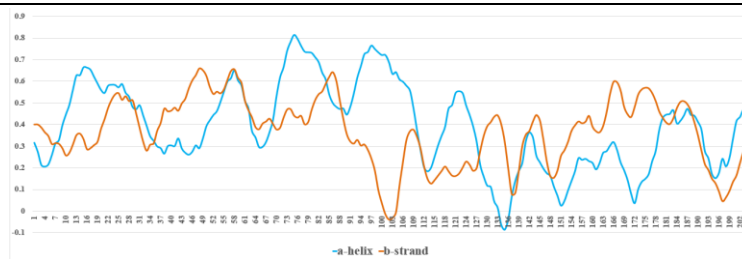
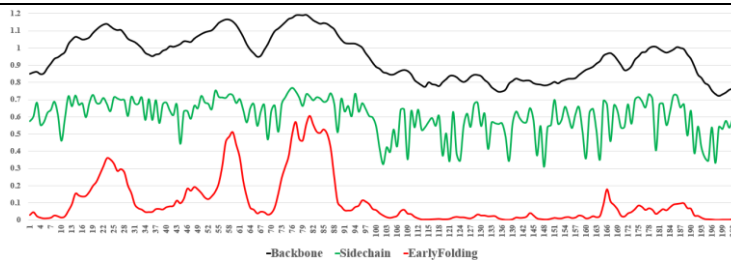
13 WFDC2



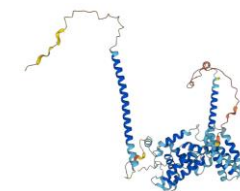
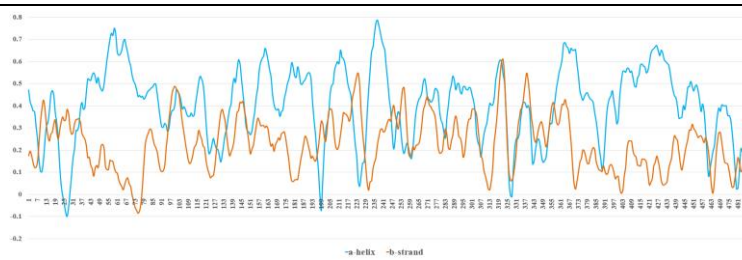
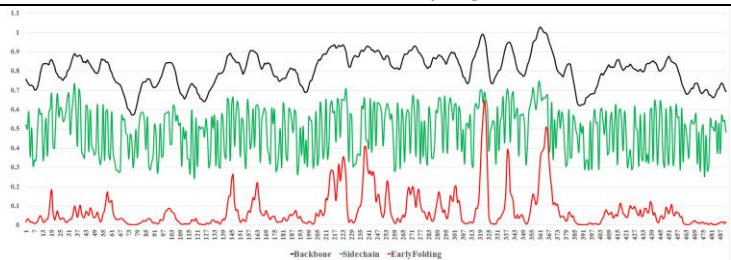
14 ZBED6CL



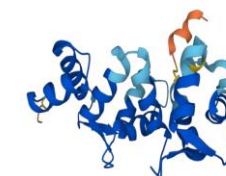
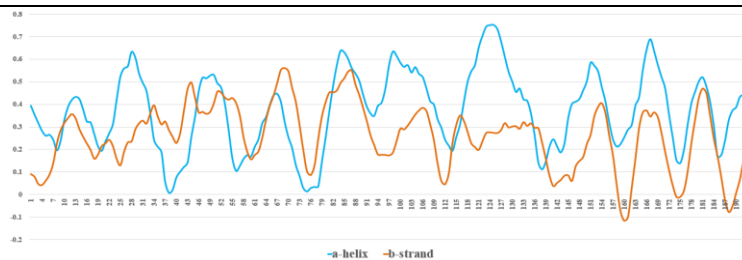
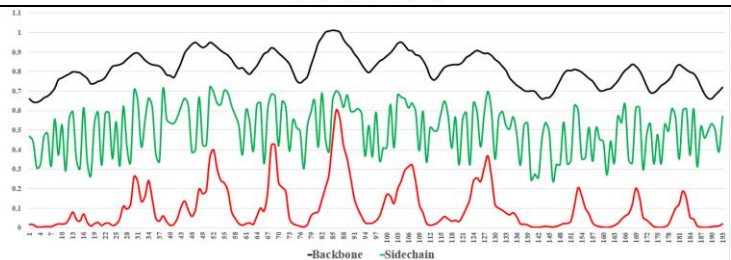
15 TSPAN13



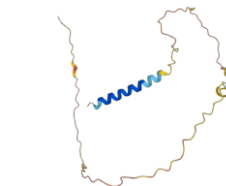
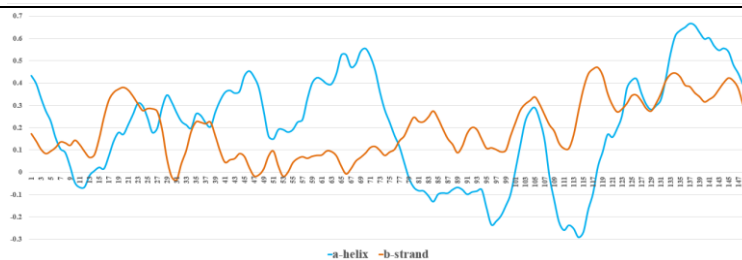
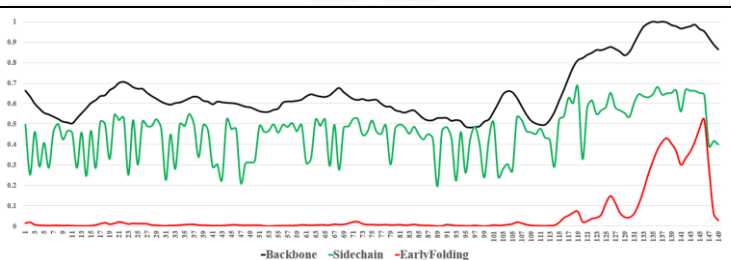
16 RABGEF1



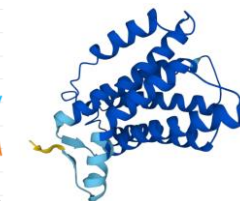
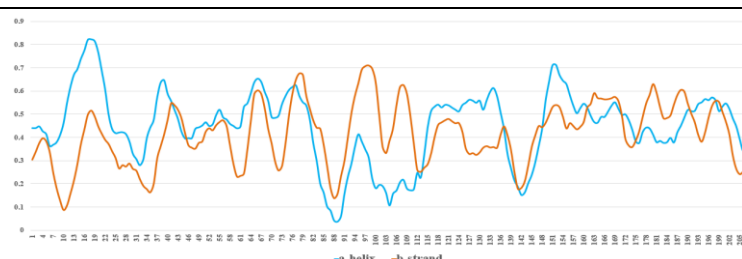
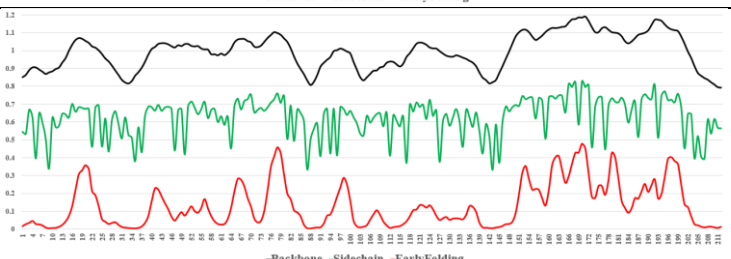
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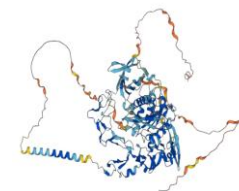
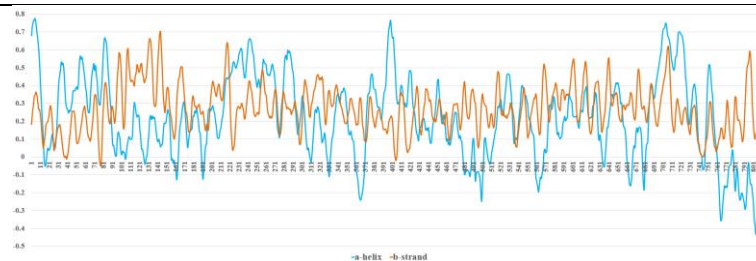
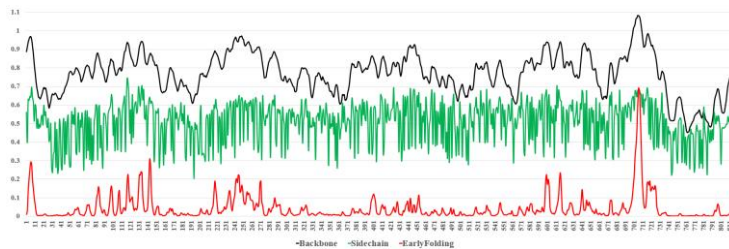
18 CEND1



19 KDELR2



20 ADAM15



## Supplementary table 13 Favorable group Proteins folding dynamic curves and 3D structures

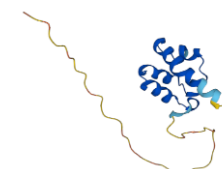
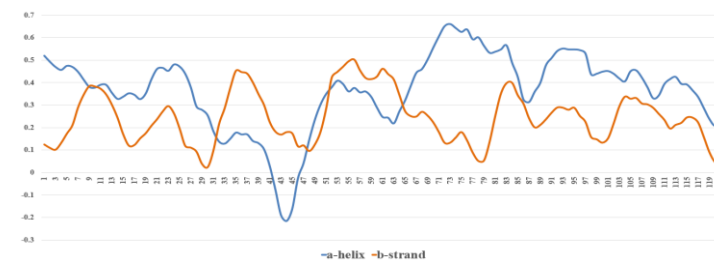
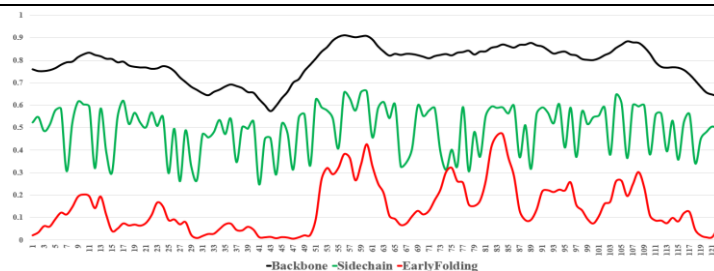
No. Name

Early, backbone, sidechain trends

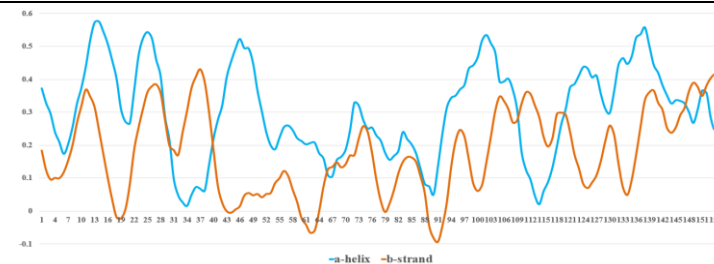
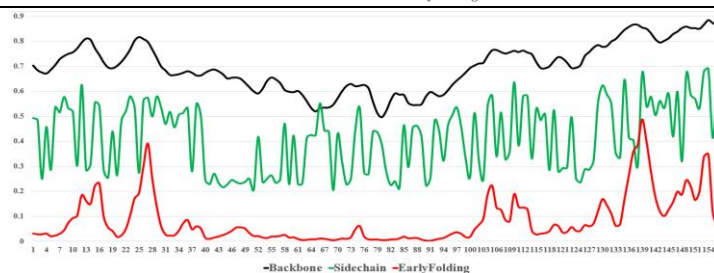
$\alpha$ -helix and  $\beta$ -strand trends

3D structure

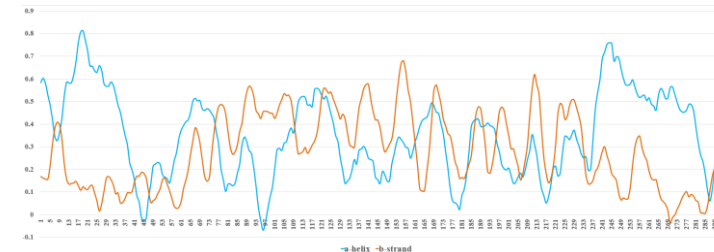
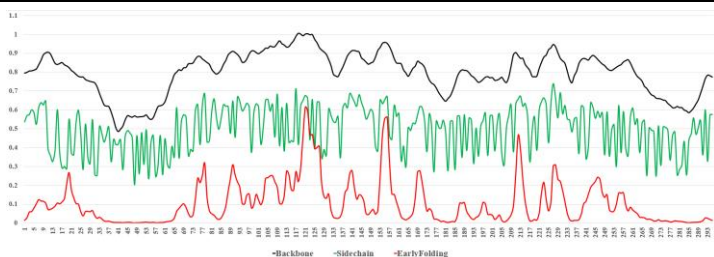
1 SAMD13



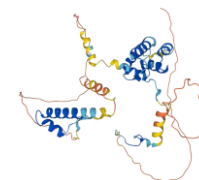
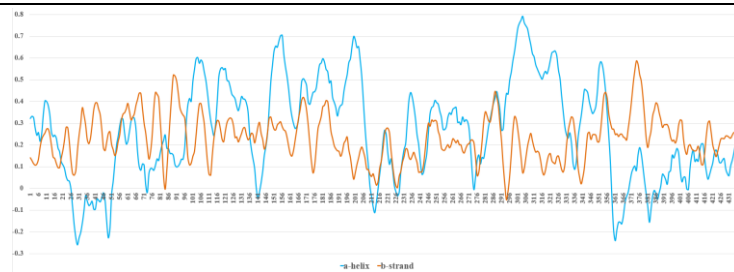
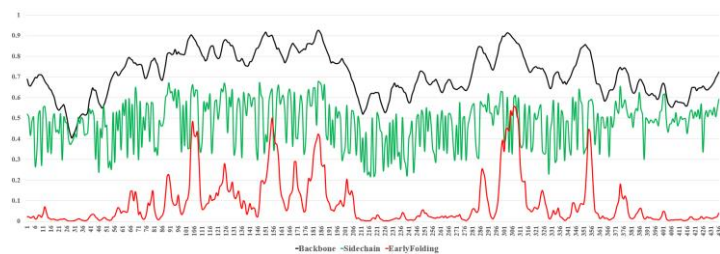
2 MIER1



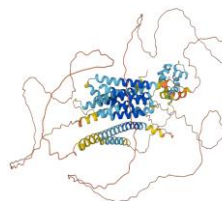
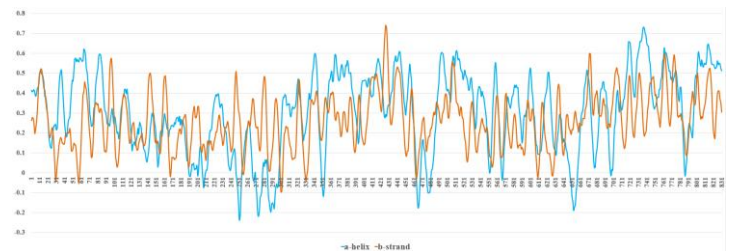
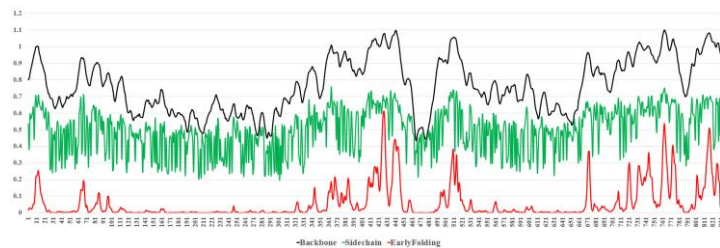
3 STARD7



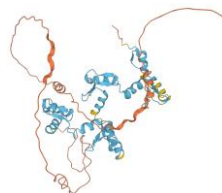
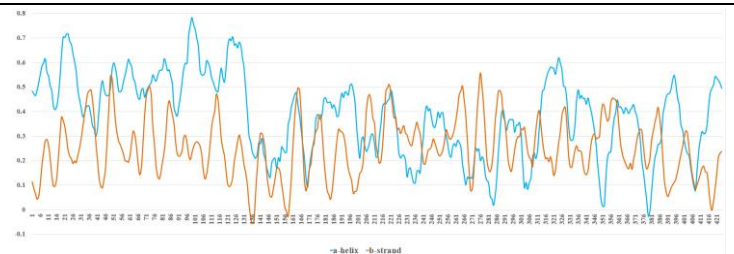
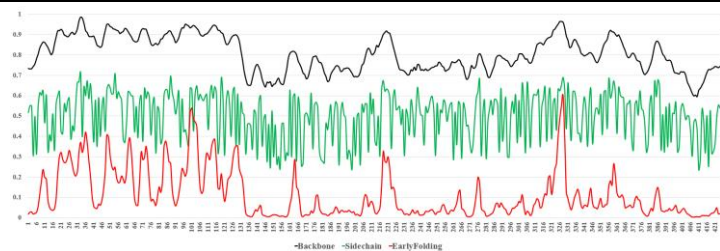
4 RCOR3



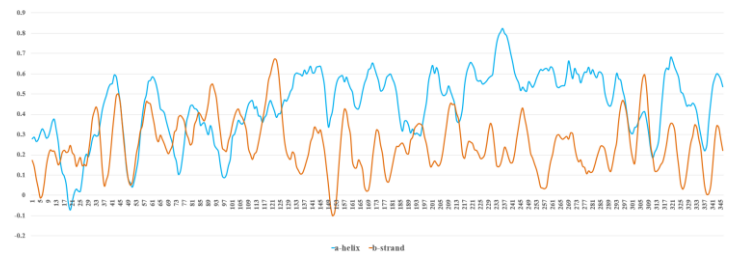
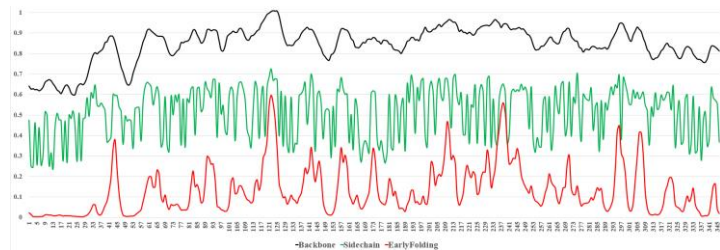
5 SLC39A10



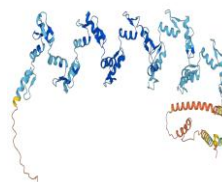
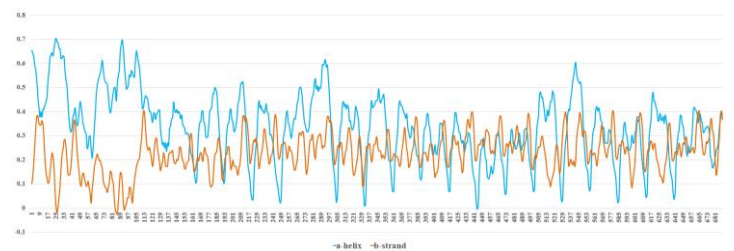
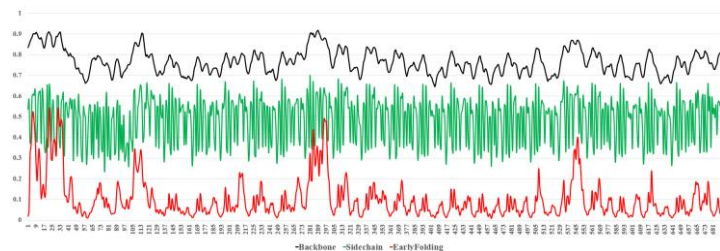
6 ZBTB6



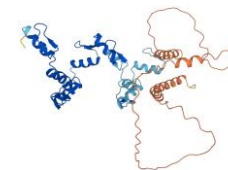
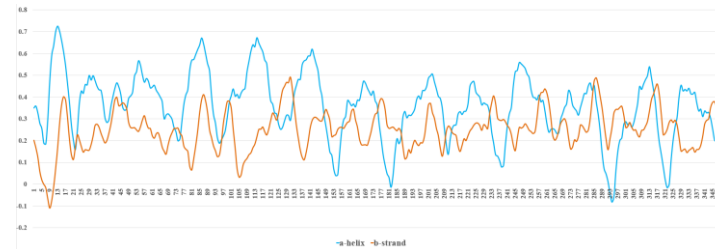
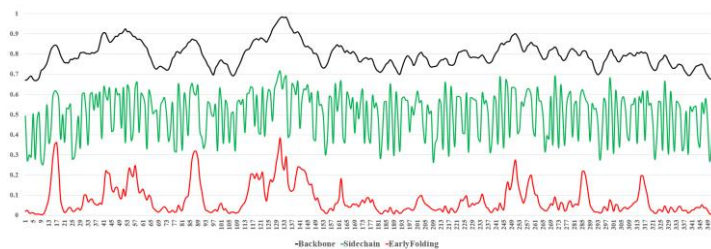
7 RRAGB



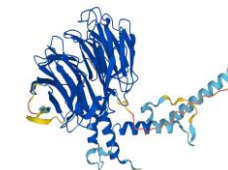
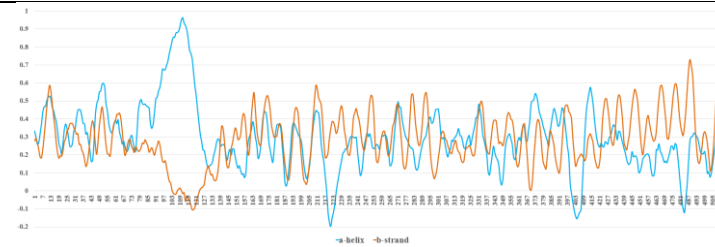
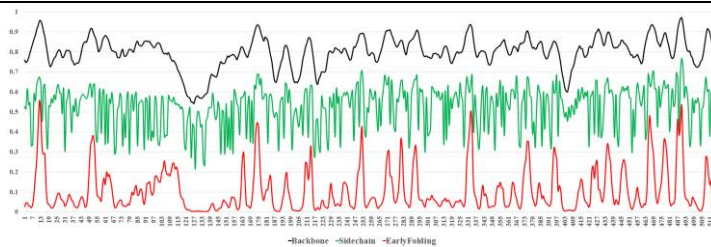
8 ZNF420



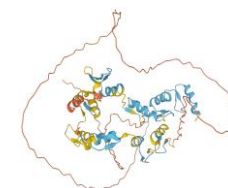
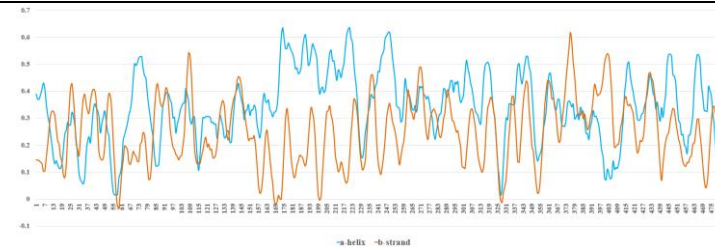
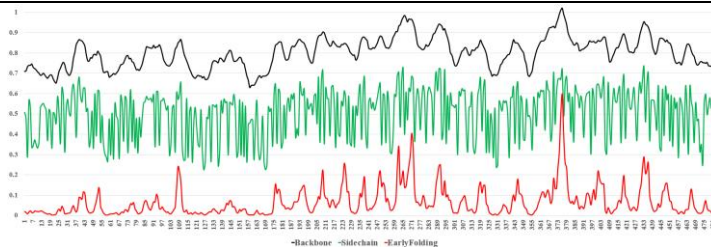
9 ZFP1



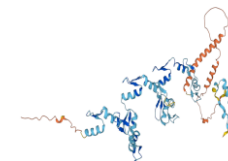
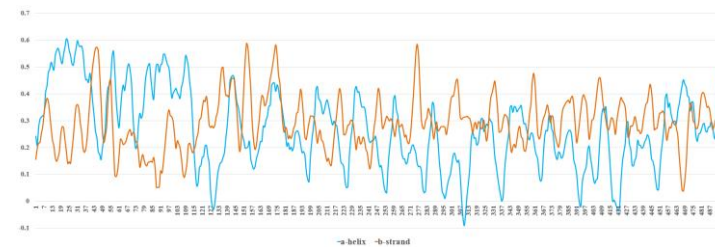
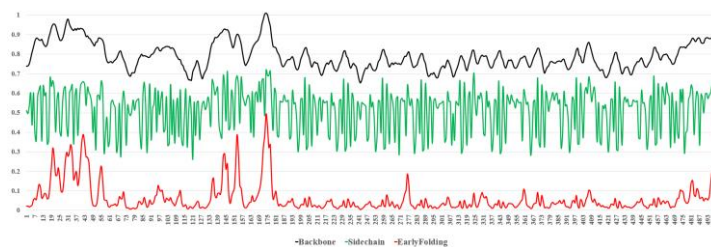
10 TBL1XR1



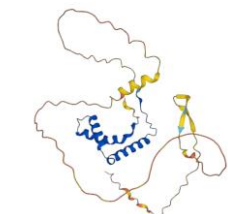
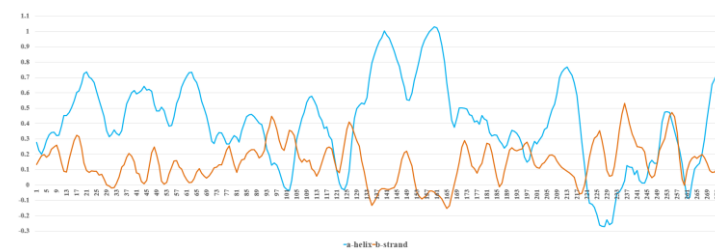
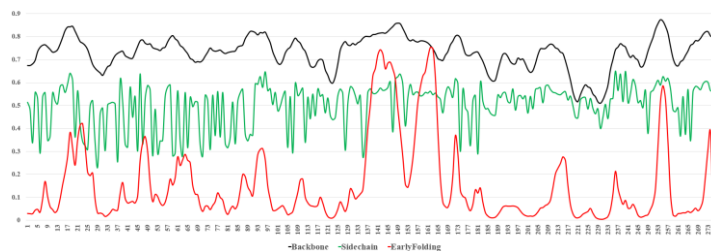
11 ZNF639



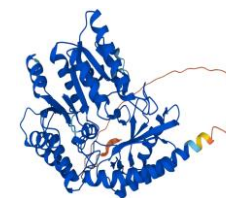
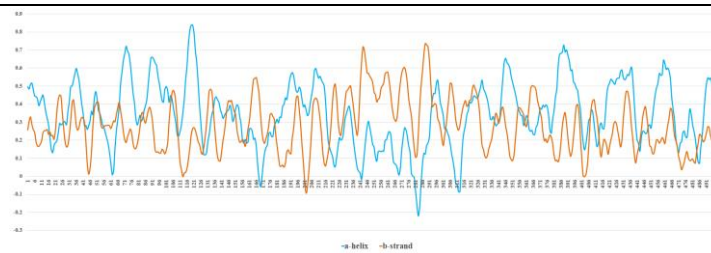
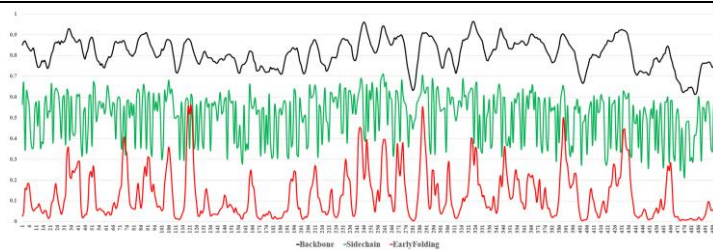
12 ZNF253



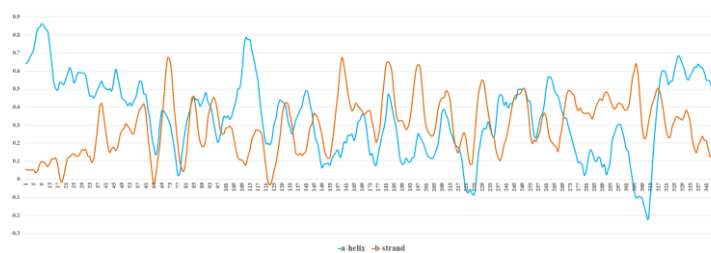
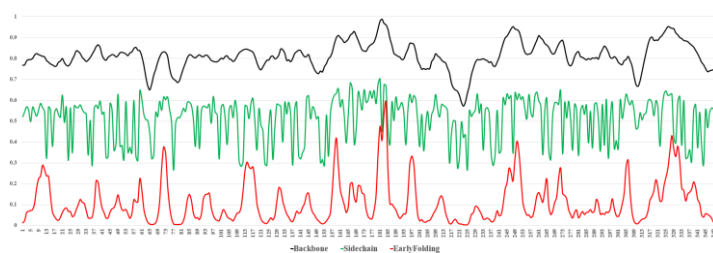
13 SOX21



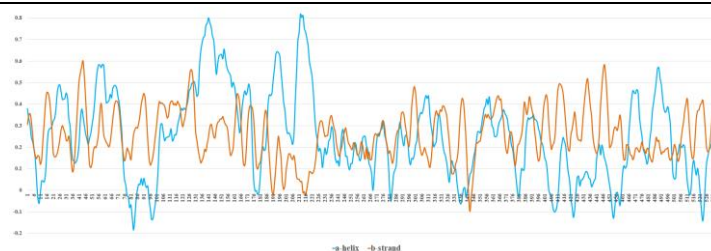
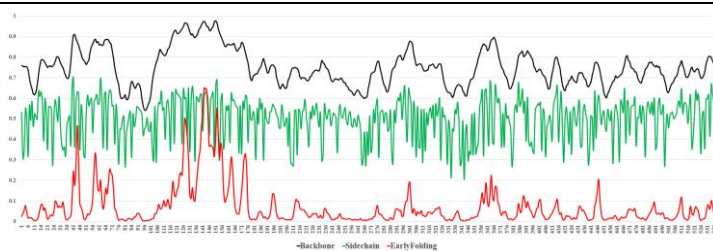
14 ETNPPL



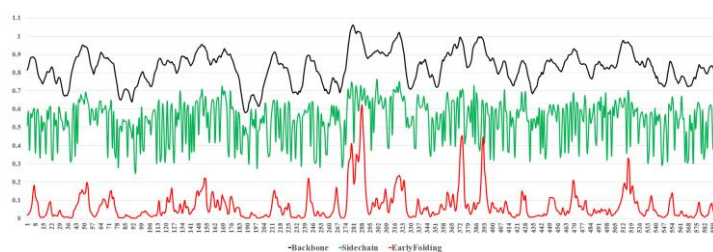
15 MTHFD2



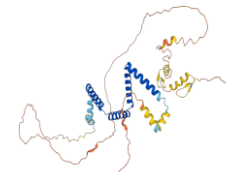
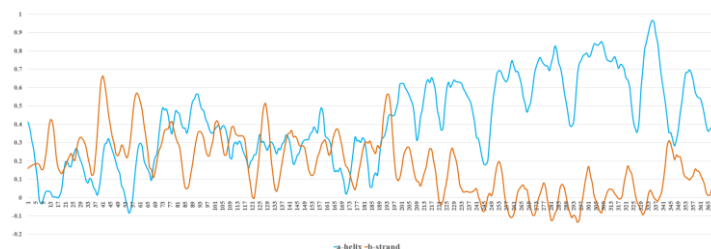
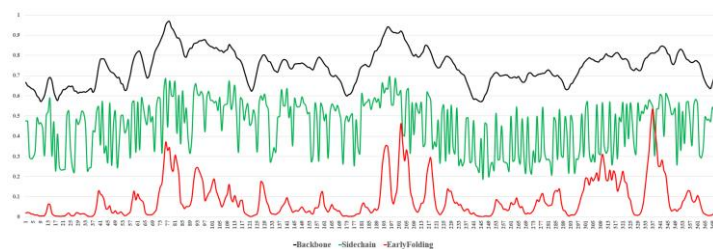
16 PATZ1



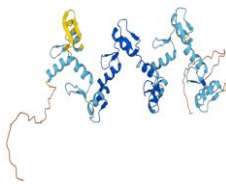
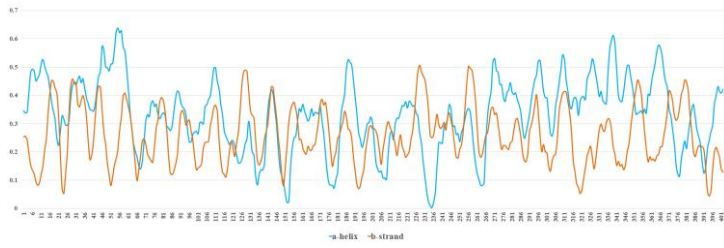
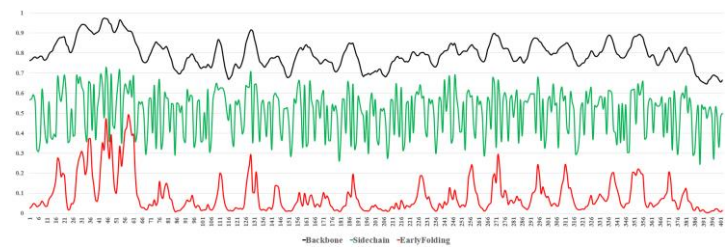
17 MARS2



18 ZNF821



19 ZNF322



20 NEUROD1

